Lower Columbia Fish Recovery Board
Interim Regional Habitat Strategy
July 2002

SECTION 1
INTRODUCTION

This document outlines the goals and strategies the Lower Columbia Fish Recovery Board and its Technical Advisory Committee will use to:

* Identify and rank habitat restoration and protection needs; and
* Evaluate and rank habitat project proposals.

It should be noted that this document is an interim habitat strategy. The adequacy and sophistication of available information on fish stocks, watershed functions, and habitat conditions varies significantly across the lower Columbia region. The strategy will be refined, as better information and analytical tools become available. It is anticipated that this strategy will evolve over the next several years to become an integral element in a comprehensive salmonid recovery plan for the lower Columbia.

In the near-term, this strategy will assist the Board and project sponsors to better target limiting factors and habitat protection needs in a way that will help maximize benefits for fish recovery and ensure the most effective use of limited resources.

The strategy provides fish recovery and habitat recovery goals. It prioritizes fish stocks and habitat recovery and protection needs. And, finally, it sets forth the means the Board and TAC will use to evaluate and rank project proposals.

SECTION 2
GOALS

The Lower Columbia Fish Recovery Board (LCFRB) was established by RCW 77.85.200 to coordinate fish recovery activities in the lower Columbia region of Washington State. The Board's key activities include recovery planning, watershed planning and habitat restoration and protection.

It is the overall habitat goal of the Lower Columbia Fish Recovery Board to provide the habitat necessary to support healthy, harvestable populations of ESA listed fish species in the lower Columbia region of Washington. Specific goals for fish recovery and habitat restoration and protection are:

A. Fish Recovery Goals

1. Support Recovery of ESA Listed Stocks

First priority in achieving this objective will be given to stocks that are listed under the federal Endangered Species Act (ESA). Four of six lower Columbia salmonid species are currently listed as threatened. These are chinook and chum salmon, steelhead, and bull trout. The ESA defines species as threatened when it is "likely to become endangered within the foreseeable future throughout all or a significant portion of its range." A species is considered

endangered when it is "in danger of extinction throughout all or a significant portion of its range."

Second priority will be given to species that are candidates or are proposed for listing under the ESA. Currently coho salmon are a candidate for listing.

2. Support Biodiversity Through Recovery of Native Wild Stocks

The maintenance of genetic and life-cycle diversity across the region is critical to the recovery of listed fish species. To help preserve this diversity, priority will be given to habitat projects benefiting naturally spawning, locally adapted fish stocks with minimal hatchery influence. The stock origin and production type classifications used for identifying and prioritizing stocks to achieve this objective are those provided in:

   a. The 1993 Washington Department of Fish and Wildlife (WDFW) Salmon and Steelhead Stock Inventory (SASSI);

   b. The 1998 Salmonid Stock Inventory for bull trout (SaSI);

   c. The 2000 Salmonid Stock Inventory for coastal cutthroat (SaSI); and

   d. The Lower Columbia Steelhead Conservation Initiative (LCSCI, 1997).

SASSI notes that its stock origin designations should be considered as preliminary until such time as more detailed information confirms or refutes the current origin designations. For this reason, the SASSI data will be augmented by more recent information where and when it becomes available. In developing project proposals, sponsors are encouraged to bring forward any additional information available regarding stock identification, origin, production and status.

Based on the SASSI information, first priority under this objective will be given to stocks that are designated as being of **native** origin and **wild** production. Second priority will be given to stocks of **mixed** or **unknown** origin and **wild** production. Third priority will be given to stocks of mixed origin and **cultured** or **composite** production.

SASSI defines a **native** as "an indigenous stock of fish that has not been substantially impacted by genetic interactions with non-native stocks, or by other factors, and is still present in all or part of its original range." **Mixed** stocks are defined as those whose individuals originated from commingled native and non-native parents, and/or by mating between native and non-native fish; or a previously native stock that has undergone substantial genetic alteration." Stocks of **unknown** origin are those "where there is

insufficient information to identify stock origin with confidence."

SASSI defines a **wild** production stock as one that "is sustained by natural spawning and rearing in natural habitat, regardless of parentage." A **cultured** stock is defined as one that "depends upon spawning, incubation, hatching, or rearing in a hatchery or other artificial production facility." A **composite** stock is a stock "sustained by both wild and artificial production."

3. Restore or Sustain Geographic Distribution of Stocks

Maintaining multiple stocks across the region is necessary to reduce the risk that changes in environmental conditions, catastrophic events, and disease will result in an unacceptable risk of species extinction. Priority will be given to restore or sustaining the historic geographic distribution of stocks. Noteworthy in this regard are listed chum stocks. Currently only three relatively small stocks of chum exist in the region. They are located in the Grays River, Hardy Creek and Hamilton Creek. Other stocks with limited geographic distribution are summer steelhead and bull trout. Efforts should be made to increase the number and distribution of these stocks throughout their historic range within the region through habitat restoration activities.

4. Maintain Healthy Stocks of a Listed Species

Maintaining healthy stocks of listed salmonid species can substantially reduce the biological risk and costs of species recovery. Rather than allowing habitat conditions to deteriorate to the point that healthy stocks are reduced to depressed or critical levels, priority will be given to projects that protect or restore habitat conditions and habitat –forming processes upon which existing healthy stocks of listed salmonid species depend.

Healthy stocks in the lower Columbia region are identified in Attachment 1. Of the 46 stocks of listed salmonid species in the lower Columbia, 17 are identified as healthy (13 fall chinook, 2 spring chinook, 1 winter steelhead, and 1 chum). The list is based on the WDFW SASSI and SaSI, LCSCI, and Limiting Factor Analysis (LFA, 1999-2001) reports for WRIAs 26 through 29. The information contained in Attachment 1 will be updated and augmented by more recent data when available.

5. Support Recovery of Critical Stocks of Listed Species

SASSI classifies a stock as "critical" if it is "experiencing production levels that are so low that permanent damage to the stock is likely or has already occurred." SASSI further states that these stocks are "in need of immediate restoration efforts to ensure their continued existence and to return them to a productive state."

The loss of a critical stock can reduce genetic and life cycle diversity within the region. For this reason habitat restoration and protection actions needed to support the recovery of critical stocks will be given priority. The SASSI report did not identify any critical stocks in the lower Columbia. However, the LCSCI classified

Wind River summer steelhead stocks (Mainstem, Panther Creek, Trout Creek) as being in critical condition. (See Attachment 1.) Accordingly, habitat projects benefiting these stocks will be a high priority.

B. Habitat Protection and Restoration Goals

Recovery of salmonid species requires the restoration and protection of the habitat conditions and processes upon which the fish depend. The following goals are listed in priority order.

1. Restore Access to Habitat

Removal of man-made barriers to substantial reaches of good quality habitat provides important benefits to fish in both the near and long term. Actions to improve access can include removal or replacement of blocking culverts and reconnecting isolated habitats, such as side channel areas. Protecting or restoring properly functioning habitat conditions are only beneficial if fish have the necessary access to the habitat. In assessing the need to remove a barrier consideration must be given to the stocks and life-history stages affected and the type, quality and quantity of habitat that would be made accessible. LFA reports, barrier inventories, and other watershed and habitat assessments will be used in assessing the need to remove or correct a barrier. Project sponsors are strongly encouraged to follow the WDFW SSHEAR Department's Fish Passage Barrier Assessment and Prioritization Manual for identification of passage barrier severity and to quantify habitat conditions above the barrier. This methodology provides consistent information that is needed to make informed decisions regarding the benefits to fish and certainty of success of the project.

2. Protect Existing Properly Functioning Habitat Conditions

Existing high quality habitat is critical to sustaining current fish abundance and productivity. Habitat restoration can be expensive and technically difficult, if not impossible. For this reason, protecting properly functioning habitat from degradation and loss is an important priority. LFA reports, other watershed and habitat assessments, and stock priorities will be used to identify and rank habitats for protection.

The scope and approach of protection projects should be commensurate with the quality of the habitat, its benefit to fish, and the nature and timing of threats to these values. They should also provide for the most efficient use of resources. Acquisition of habitat should not occur where federal, state, or local laws and regulations provide the needed level of protection. Likewise fee title acquisition should generally not be used, where the acquisition of a conservation easement or development rights from a willing landowner would assure the needed level of protection and/or restoration.

The quality and quantity habitat, the potentially affected stocks, and the nature and urgency of the threat to habitat values are key considerations in determining habitat protection needs. Priority will be given to protection of high quality habitat facing serious near-term threats.

3. Restore degraded watershed processes needed to sustain properly functioning habitat conditions

Habitat projects should focus on the restoration of watershed functions that will sustain habitat conditions upon which salmon stocks depend over the long-term. Projects that address a habitat need on a temporary or near-term basis may be justified as a critical interim step in a comprehensive effort to restore natural habitat forming processes over the long-term.

LFA reports and other technical assessments will be used to help identify and prioritize key watershed functions requiring restoration or protection in each basin. In order to assess whether a project has an adequate supporting technical basis, it will be important that the project addresses considerations listed for its project type contained in the Guidance on Watershed Assessment for Salmon, Part 3 (Joint Natural Resources Cabinet, State of Washington, May 2001)

4. Support of Critical Salmonid Life-History Stages

Projects may target habitat conditions needed to support critical life-history stage needs. LFA information and other technical assessments should be used to help identify the key habitat needs for each species in a given basin. Sponsors should provide adequate supporting information linking:

    a. The habitat requirements of target species and life-history stages.

    b. The availability of those habitat conditions relative to historic conditions.

    c. The likelihood that the lack of suitable habitat is restricting population abundance.

Consideration will also be given to a project's contribution to critical life-history stages on a regional level. Some basins, such as the Chinook River, play an important role in the life history of fish stocks from outside the lower Columbia region. (Dewberry, 1997)

Project proposals should clearly identify each species and its life-history stages that will benefit from the proposed action.

5. Secure Near and Long-Term Benefits

Addressing habitat protection and restoration needs that will provide both near-term and sustainable long-term benefits for fish should receive a higher priority than addressing conditions that will provide benefits to fish only in the long-term. Projects that provide

only short-term benefits may be justified if they are:

    a. Part of a comprehensive effort to restore natural habitat processes over the long-term, and

    b. Designed to sustain or protect a stock(s) until natural habitat processes are restored.

SECTION 3
FISH STOCK
PRIORITIES

Stocks for each salmonid species have been categorized into four tiered priority groupings to assist setting habitat priorities within each watershed and across the lower Columbia region. This habitat strategy uses stock priorities and distribution to guide decisions regarding habitat area priorities. Projects that are located in areas with a greater number of priority stocks, and designed to benefit those stocks, will receive more points in the project evaluation process. Stocks for each watershed, except the Chinook River, were identified using SASSI. SASSI defines a stock as "the fish spawning in a particular lake or stream(s) at a particular season, which fish to a substantial degree do not interbreed with any group spawning in a different place, or in the same place at a different season."

Since SASSI stock information is not available for the Chinook River, stocks for this watershed were identified using information from Sea Resources (Dewberry, 1997), WDFW, and the WRIA 24/25 LFA. As more information on stocks (or populations) becomes available for the lower Columbia, stock priorities will be updated and expanded on.

A. Tier 1
(Highest Priority)

The tiered breakdown integrates goals 1 through 5 discussed in Section 2.A above. It uses stock information taken from SASSI, LFA reports, and LCSCI. SASSI definitions of stock origin, production type, and status are outlined in Section 1.A. Attachment 1 provides a list of stocks by watershed or basin. Attachment 2 provides a listing of stocks by tier. The criteria for each of the four tiers is provided below:

B. Tier 2

This Tier includes stocks that are (1) listed as threatened pursuant to the ESA and are (2) classified by SASSI as native, mixed, or unknown in origin and wild in production. It also includes all chum, summer steelhead, and bull trout stocks due to their limited geographic distribution. It may include stocks designated by SASSI as healthy, depressed, or critical if the stocks satisfy the ESA, origin, and production type designations for this Tier.

C. Tier 3

This Tier includes stocks that are (1) listed as threatened pursuant to the ESA and are (2) classified by SASSI as mixed, non-native, or unknown in origin and composite in production. It includes all

D. Tier 4
(Lowest Priority)

stocks designated by SASSI as healthy or critical and not included in Tier 1. It may also include a stock designated as depressed if the stock satisfies the ESA, origin, and production type designations for this Tier.

Tier 3 includes all stocks that are proposed or are candidates for listing under the ESA. They may be of any stock origin, production type, or status designation.

Tier 4 includes all stocks that are not listed or proposed for listing under the ESA. They may be of any stock origin, production type, or status designation.

SECTION 4
Habitat
Protection and
Restoration
Priorities

The number of affected stocks and their importance along with the degree to which correction of a limiting factor or protection of habitat would help achieve or sustain properly functioning habitat conditions are key considerations in determining habitat priorities.

As discussed in Section 3, Attachment 1 identifies fish stocks by basin and their priority rating, tiers 1 through 4. It should be noted that not all stocks will be present throughout the basin. Stocks likely to be present in a given river reach can be determined using the LFA fish presence information and maps.

Attachment 3 provides a ranked list of limiting factors. Limiting factors have been identified using LFA reports. The importance of each limiting factor is ranked as high, medium, or low based on the habitat goals set forth in Section 2.B. Attachment 3 presents this ranking information in matrix form. It is organized by basin using the LFA sub-basin designations. In addition to ranking limiting factors within a basin, potential restoration and protection actions have been identified for each limiting factor. Finally, fish stocks and their priorities are also listed for each basin.

In general, limiting factors rated as high and affecting multiple high priority (Tier 1 or 2) stocks are a higher priority than limiting factors rated moderate or low and affecting few or lower priority (Tier 3 or 4) stocks.

This information is provided to assist project sponsors in identifying and developing projects that will address the most important habitat protection and restoration needs. It is intended to serve as guidance. It will be refined as additional information on fish stocks and habitat conditions becomes available through various assessment projects and ongoing monitoring efforts. It should be further noted that basing a project on a limiting factor that is rated as high and affects high priority fish stocks substantially enhances the likelihood, but does not ensure, that a

project will receive a high priority for funding. As discussed in Section 5 below, a project's priority for funding is based on both its benefit to fish and certainty of success. Certainty of success takes into consideration a project's relationship to other limiting factors and restoration efforts as well as project design, cost, and management elements.

SECTION 5
Evaluating and Ranking of Habitat Projects

The ranking of habitat project proposals will be done using the same basic approach outlined for establishing habitat priorities but also takes into consideration the degree to which a project addresses an identified habitat priority and factors affecting the level of certainty that a project will produce its intended benefits for fish.

A. *Evaluation Criteria*

Each proposed habitat project will be evaluated using the following criteria:

1. Benefits to Fish

a. The number of stocks that will be affected and their priorities

The number of stocks that would benefit from a project and their priority will be determined using the tiered stock listing discussed in Section 3 and the fish presence information contained in the applicable LFA report or other comparable source.

b. The nature and significance of the benefit's the project will have for the affected stocks

While the benefit for all affected stocks will be considered, greatest weight will be given to the project's potential value to ESA listed species or unique stocks essential for recovery.

c. The degree to which the proposed action addressing a limiting factor or protection of habitat would help to achieve and sustain properly functioning habitat conditions

Factors to be considered include the extent to which a project addresses:

(1) An identified habitat priority as discussed in Section 4 or limiting factors identified in an LFA report or other technical assessment.
(2) Information needs for project identification as outlined in the Guidance on Watershed Assessment for Salmon, Part 3 (Joint Natural Resources Cabinet, State of Washington, May 2001).
(3) Section 2.B habitat goals. These include the value of the project in:
   (a) The importance of the project in restoring access to habitat;
   (b) Achieving and sustaining properly functioning habitat conditions; and
   (c) Providing for critical salmonid life history stages in the reach or basin.

2. Certainty of Success	The level of certainty that the project would produce its intended benefit for fish will be assessed based on the extent to which the proposed project:
a. Complements other habitat protection and restoration programs and projects within a basin	Habitat projects should be designed, coordinated, and sequenced in concert with other salmon recovery activities with a watershed or basin. This can help to achieve the greatest benefit to fish in the shortest possible time and with the most efficient use of resources.

Specific consideration will be given to whether a project is:

(1) An element of a comprehensive watershed or basin restoration and protection strategy;
(2) Well coordinated and logically sequenced with other habitat projects completed, underway, and planned for a watershed or basin; and/or
(3) Complements and supports other local and state salmon recovery regulations and programs, including land use and development regulations, critical area ordinances, storm water management programs, shoreline master plans, forest management regulations, etc.

b. Has a sound technical basis in addressing habitat forming processes and limiting factors	The success of a project requires a solid understanding of conditions and watershed processes that cause or contribute to the problem or limiting factor being addressed. For some projects, existing LFA information may be sufficient. More complex problems may require a more thorough assessment of conditions and watershed processes. This information may be available through existing studies and evaluations. In some cases, site-specific assessments and design work may be required. LCFRB technical staff and WDFW Watershed Stewards will help project sponsors identify existing documents that provide technical support for proposed projects. In order to assess whether a project has an adequate supporting technical basis, it will be important that the project proposal addresses considerations listed for its project type contained in the Guidance on Watershed Assessment for Salmon, Part Three (Joint Natural Resources Cabinet, State of Washington, May 2001) (Attachment 5).
c. Demonstrates that sponsor experience and capabilities are commensurate with project requirements	The success of a habitat project is dependent on the project sponsor's ability to design, plan, implement and monitor a project. Ideally, project sponsors should have experience in successfully completing project of similar nature, scope, and complexity. At a minimum, sponsors should indicate how they would acquire needed experience and expertise that they do not possess. Options for doing so could include partnerships with other agencies or organizations, or contracting for needed services.

d. Applies proven methods and technologies

The certainty of a projects success can be enhanced through the use of proven and accepted methods and technologies. Projects should utilize approaches and technologies that are commensurate with the nature, scope, and complexity of the problem being addressed.

Innovative or experimental approaches may be acceptable if no proven method exists or it can be shown that they will reasonably extend knowledge of restoration methodologies.

e. Has community support

The long-term success of habitat restoration and protection efforts depends on the acceptance and support of local communities. Projects should be designed and implemented in a manner that accommodates local values and concerns. LCFRB places a higher priority on projects that will provide long-term benefits for fish by also promoting community education and involvement in salmon recovery.

f. Demonstrates that costs are reasonable for the work pro-posed and the benefit to be derived

Given that resources for habitat protection and restoration are limited, projects should be designed and implemented in the most efficient and effective manner possible. Project costs should be commensurate with those for projects of similar nature, scope, and complexity. A project's chance of success can also be enhanced through the use of partnerships that can leverage expertise, contributions of materials and labor, and funding.

g. Demonstrates an effective main-tenance & moni-toring element

Monitoring the effectiveness of the project is critical to determining the success of the project in meeting its objectives. Maintenance of a completed project may be critical to the project's performance and long-term effectiveness.

A project proposal should clearly indicate how performance will be monitored and effectiveness in meeting project objectives will be measured, over what period of time and by whom. It should also indicate how monitoring efforts would support maintenance of the project and who would perform maintenance and over what period of time.

B. _Scoring and Ranking of Habitat Project Proposals_

Habitat projects will be scored by the TAC using a score sheet that is based on the evaluation criteria discussed in section 4.A. above. A sample score sheet is provided as Attachment 4.

Each project will be scored on both its benefits for fish and certainty for success. As discussed above a project's benefit to fish is determined by the affected stocks and their priority and the degree to which the proposed correction of a limiting factor or

protection of habitat would help to achieve and sustain properly functioning habitat conditions. Certainty of success is the level confidence that a project will achieve its goals.

The scores for each project will be used to rate its benefit for fish and certainty of success as high, medium, or low. Based on these designations a project will be assigned to a priority using the matrix below. Within each priority category projects will be ranked based on their combined benefit and certainty scores. Projects in categories 1, 2 and 3 will be recommended for funding.

		Benefit To Fish		
		High	Medium	Low
Certainty Of Success	High	Group 1	Group 2	Group 4
	Medium	Group 2	Group 3	Group 4
	Low	Group 4	Group 4	Group 4